

We Claim

- 1) A mutated strain of a yeast *Candida versatilis* deposited in international depository with an accession number _____.
- 2) The mutated yeast strain as claimed in claim 1, wherein the mutation was performed by Ethyl methane sulphonate (EMS).
- 3) The mutated yeast strain as claimed in claim no 2, wherein the highest mutation frequency was achieved with a concentration of about 30 mg/ml of EMS in reaction mixture with time duration of about 150 minutes and rotation per minute (RPM) of about 150 at about room temperature.
- 4) A process for the preparation of *Chapathi* dough with 10 -45% reduction in phytic acid level, using mutated strain of a yeast *Candida versatilis* accession number _____ having phytase activity ranging between 140-170 U/g, the said process comprise steps of:
 - a) adding water to wheat flour in a ratio of 1:0.5-1:0.6 and NaCl of concentration ranging from 0.8-1.2% to obtain chapathi dough;
 - b) mixing the permeabilized yeast mutants with the chapathi dough of step (a), and
 - c) storing of *Chapathi* dough at a temperature ranging between 10-26°C for a period of 30 min to 24 h and thereby obtaining the chapathi dough with 10-45% reduction in the level of phytic acid.
- 5) A process as claimed in claim 4, wherein permeabilizing the mutant by freezing and thawing.
- 6) A process as claimed in claim 5, wherein the freezing and thawing was performed by ice-salt mixture/ liquid nitrogen and tap water respectively.
- 7) A process as claimed in claim 6, wherein the highest permeabilization of cells of mutants were obtained by liquid nitrogen freezing for 20 seconds and thawing under tap water at about 26⁰C for about 40 seconds and repeating the process for about 4 cycles.
- 8) A process as claimed in claim 5, wherein the highest permeabilization of cells of mutants were obtained by ice-salt freezing for about 10 minutes and thawing under tap water at about 26⁰C for about 40 seconds and repeating the process for about 20 cycles.
- 9) A process as claimed in claims 6, wherein maximum phytase activity is obtained in the liquid nitrogen freeze-thawed permeabilized mutants.

- 10) A process as claimed in claim 4, wherein a reduction of 45% in the level of phytic acid in *Chapathi* dough is achieved in about 24 h at about 10°C.
- 11) A mutated strain of a yeast *Candida versatilis* deposited in international depository number and having the accession number_____.
- 12) A mutated yeast strain as claimed in claim 11, wherein the mutation was performed by UV radiation.
- 13) The mutated yeast strain as claimed in claim no 12, wherein the highest mutation frequency was achieved with about 2 minutes of UV irradiation from about 30W UV lamp from a distance of about 25 cms.
- 14) A process for the preparation of *Chapathi* dough with 10 -45% reduction in phytic acid level using mutated a yeast *Candida versatilis* accession number _____ having phytase activity ranging between 140-170 U/g, where the said process comprising the steps of:
 - a) adding water to wheat flour in a ratio of 1:0.5-1:0.6 and NaCl of concentration ranging from 0.8-1.2% to obtain chapathi dough;
 - b) mixing the permeabilized yeast mutants with the chapathi dough of step (a), and
 - c) storing of *Chapathi* dough a temperature ranging between 10-26°C for a period of 30 min to 24 h and thereby obtaining the chapathi dough with 10-45% reduction in the level of phytic acid.
- 15) The process as claimed in claim 14, wherein the mutation of *Candida versatilis* 505 was performed by UV radiation.
- 16) The mutated yeast strain as claimed in claim no 15, wherein the optimized parameters of UV radiation to obtain highest mutation frequency was about 2 minutes of irradiation from about 30W UV lamp from a distance of about 25 cms.
- 17) A process as claimed in claim 14, wherein the permeabilizing the mutant of *Candida versatilis* by freezing and thawing.
- 18) A process as claimed in claim 16, wherein the freezing and thawing was performed by ice-salt mixture/ liquid nitrogen and tap water respectively.
- 19) A process as claimed in claim 17, wherein the highest permeabilization of cells of mutants were obtained by liquid nitrogen freezing for 20 seconds and thawing under tap water at about 26°C for about 40 seconds and repeating the process for about 4 cycles.

- 20) A process as claimed in claim 17, wherein the highest permeabilization of cells of mutants were obtained by ice-salt freezing for about 10 minutes and thawing under tap water at about 26⁰C for about 40 seconds and repeating the process for about 20 cycles.
- 21) A process as claimed in claims 17, wherein maximum phytase activity is obtained in the liquid nitrogen freeze-thawed permeabilized mutants.